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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,693	09/17/2003	Ravinder Aggarwal	ASMEX.358DV1	6237
20995	7590	11/21/2005	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614			ADAMS, GREGORY W	
			ART UNIT:	PAPER NUMBER
			3652	

DATE MAILED: 11/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/665,693	AGGARWAL ET AL.	
	Examiner	Art Unit	
	Gregory W. Adams	3652	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 September 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With respect to line 7, something between is considered in an intermediate space or position. In this case the space considered between loadlock 40 and front docking port 12 is construed at most as the lines defining the boundary of the transport chamber 22. Neither buffer 30 appears within this space. Further, adding to the confusion is the fact that claim 1 as amended now recites a buffer adjacent to the first handling chamber.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-13 rejected under 35 U.S.C. 103(a) as being unpatentable over Hofmeister (US 6,481,956) in view of Tanaka et al. (US 6,395,094).

With respect to claim 1, Hofmeister discloses a tool comprising a first substrate handling chamber 13, front docking port 24 on the outside of a first substrate handling

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chamber 13, robot arm 32 in a first substrate handling chamber 13, loadlock chamber 16, buffer station B1-4 located between a loadlock chamber 16, and a front docking port 24, cassette 34, buffer station rack B1-4, buffer station rack shelves (col. 3, Ins. 30-40), and a buffer station rack which holds wafers. Hofmeister does not disclose buffers adjacent a transport chamber. Tanaka discloses buffers 44, 46 adjacent a substrate handling chamber for preheating or cooling wafers during transport to or from processing chambers thereby enhancing the utilizing efficiencies of an adjacent handling chamber. Col. 6, Ins. 15-65. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the buffers Hofmeister be adjacent to a substrate handling chamber, as per the teachings of Tanaka, to enhance utilizing efficiencies. Further, Applicant is respectfully reminded that claim language consisting of functional language and/or intended use phrasing is given little, if any, patentable weight as the apparatus must merely be capable of functioning, or being used, as claimed. See MPEP 2112.02, 2114. Here, Hofmeister's buffers and/or Tanaka's buffers are certainly configured for a less inert environment.

With respect to claim 2, Hofmeister discloses a tool further comprising a buffer station rack B1-4 that holds 300mm wafers.

With respect to claim 3, Hofmeister discloses a tool further comprising a rear substrate handling chamber 11 where a loadlock chamber 16 is between a first substrate handling chamber 13 and a rear substrate handling chamber 15. With respect to "between", this may be interpreted as a physical limitation, i.e. where it is located in a physical relationship to its surroundings, or may also be considered in a procedural

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limitation, i.e. a wafer is placed in a buffer while moving between a processing step and a storage step. [www.dictionary.com](http://www.dictionary.com).

With respect to claim 4, Hofmeister discloses a tool wherein a buffer station B1-4 has an inert environment. It is noted that this may be an open cassette or a closed cassette.

With respect to claim 5, Hofmeister discloses a buffer station B1-4 is purged.

With respect to claim 6, Hofmeister discloses a buffer station B1-4 is configured as an isolated environment.

With respect to claim 7, Hofmeister discloses a buffer station B1-4 with an internal volume. It is noted that a cassette functioning as a buffer station has an internal volume bounding by the cassette.

With respect to claim 8, Hofmeister discloses a buffer station rack B1-4 holds twenty-five 300mm wafers. Col. 3, Ins. 5-20. It is noted that without a specific need pertaining to applicant's invention, a finite quantity of a specific dimension is not a patentable distinction.

With respect to claim 8, Hofmeister discloses a loadlock chamber 16 has internal volume less than or equal to 9.156 liters.

With respect to claim 10, Hofmeister discloses a buffer station rack shelves have a reduced pitch relative to FOUP shelves. It is noted that Hofmeister discloses variable spacing depending on the amount of wafer holding shelves required in the buffer.

With respect to claim 11, Hofmeister discloses a robot arm 38,40,42 including a variable pitch end effector 46 and end effector shelves. Col. 4, Ins. 5-30.

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With respect to claim 12, Hofmeister discloses a substrate handling chamber 13 has atmosphere.

With respect to claim 13, Hofmeister discloses a substrate handling chamber has reduced pressure.

2. Claims 14-16, 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroki (US 5,989,346) in view of Tanaka et al. (US 6,395,094).

With respect to claim 14, referring to FIGS. 1-12 Hiroki '346 discloses a semiconductor processing tool 1 comprising a substrate handling chamber 5, docking port 9b, cassette 42, cassette rack, col. 1, Ins. 49-51, buffer station 70, buffer station rack 72,74,76,78, buffer station rack slots 79. Hiroki does not disclose buffers adjacent a transport chamber. Tanaka discloses buffers 44, 46 adjacent a substrate handling chamber for preheating or cooling wafers during transport to or from processing chambers thereby enhancing the utilizing efficiencies of an adjacent handling chamber. Col. 6, Ins. 15-65. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the buffers Hiroki be adjacent to a substrate handling chamber, as per the teachings of Tanaka, to enhance utilizing efficiencies. Further, Applicant is respectfully reminded that claim language consisting of functional language and/or intended use phrasing is given little, if any, patentable weight as the apparatus must merely be capable of functioning, or being used, as claimed. See MPEP 2112.02, 2114. Here, Hiroki's buffers and/or Tanaka's buffers are certainly configured for a less inert environment.

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With respect to claim 15, Hiroki '346 discloses a load lock chamber 3 having a load lock chamber rack 31.

With respect to claim 16, Hiroki '346 discloses a rear substrate handling chamber 4. It is noted that Hiroki is not limited to requiring a robot arm within a handling chamber, only that the arm is capable.

With respect to claim 18, Hiroki '346 discloses a load lock chamber rack 31 for holding 300mm wafers.

With respect to claim 19, Hiroki '346 discloses a substrate handling chamber 5 at standard atmosphere pressure. Col. 7, Ins. 21-22.

With respect to claim 20, Hiroki '346 discloses a substrate handling chamber 5 at reduced pressure. Col. 7, Ins. 21-22.

With respect to claim 21, Hiroki '346 discloses a buffer station rack 72,74,76,78 with reduced relative spacing between rack slots 79.

With respect to claim 22, Hiroki '346 discloses a buffer station rack 31 at reduced pitch rack 31, accessed by robot arm 60a. Col. 6, Ins. 47-53.

With respect to claim 23, Hiroki '346 discloses a robot arm 60a, end effectors for transferring substrates. Col. 12, Ins. 5-10.

3. With respect to claim 18, referring to FIGS. 1-12 Hiroki '346 discloses a load lock chamber 3 limited to 1 to 7 substrates. Hiroki teaches holding a predetermined number of substrates based on processing needs. Col. 6, Ins. 15-45. It would have been obvious to one having ordinary skill in the art at the time the invention was made to limit

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the load lock chamber 3 to 1 to 7 substrates, as per the teachings of Hiroki, to hold a predetermined number of substrates based on processing needs.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

In the interest of furthering prosecution, Applicant is respectfully reminded that claim language consisting of functional language and/or intended use phrasing is given little, if any, patentable weight as the apparatus must merely be capable of functioning, or being used, as claimed. See MPEP 2112.02, 2114. Although made moot by Applicant's amendment, Hoffmeister's buffers lie within a transport chamber capable of a separate environment from Hoffmeister's cassettes 24, 26 by virtue of the fact that the transport chamber is maintained at a separate environment. Further, with respect to a "purgable" buffer station, the fact that it lies within an environment, e.g. Hiroki's transport chamber, means that its environment is purged as well.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not



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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory W. Adams whose telephone number is (571) 272-8101. The examiner can normally be reached on M-Th, 8:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on (571) 272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GWA



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